

INVESTING in Arizona's Future

**College Access, Affordability, and the Impact
of Investment in Need-Based Financial Aid**

A POLICY REPORT BY:

**Institute for Higher Education Policy, Washington, DC, and
Latina/o Policy Research Initiative, The University of Arizona**
for the Arizona Commission for Postsecondary Education

Funding for this project was made possible through the generous support of **USA Funds®**

The Institute for Higher Education Policy is a non-profit, non-partisan research organization whose mission is to foster access and success in postsecondary education through public policy research and other activities that inform and influence the policymaking process. These activities include policy reports and studies, seminars and meetings, and capacity building activities such as strategic planning. The primary audiences of the Institute are those who make or inform decisions about higher education: government policymakers, senior institutional leaders, researchers, funders, the media, and private sector leaders.

The Institute for Higher Education Policy

1320 19th Street, NW, Suite 400, Washington, DC 20036

Phone: 202-861-8223 • FAX: 202-861-9307 • Internet: www.ihep.org

The Latina/o Policy Research Initiative, sponsored by The University of Arizona College of Humanities, is a public policy research initiative designed to bridge the gap between academic research and public policy. The Initiative is committed to generating a program of evaluation and research, articulating its research findings to policymakers, business and community leaders, and communities throughout the region, and applying such insights in order to transform public policy outcomes for Latinos in Arizona and the Southwest. The Initiative's Director is Dr. José Luis Santos.

Latina/o Policy Research Initiative

College of Humanities, Humanities Administration, The University of Arizona

P.O. Box 210023, Tucson, AZ 85721-0023

Phone: 520-626-1899 • FAX: 520-626-0783 • Internet: www.lpri.coh.arizona.edu

USA Funds® is the nation's leading education-loan guarantor. A non-profit corporation, USA Funds works to enhance postsecondary-education preparedness, access, and success by providing and supporting financial and other valued services. USA Funds links colleges, universities, proprietary schools, private lenders, students and parents to promote financial access to higher learning. During the past 44 years, the USA Funds guarantee has supported a total of nearly \$115.5 billion in financial aid for higher education. USA Funds has served more than 13.6 million students and parents, as well as thousands of educational and financial institutions.

USA Funds®

P.O. Box 6028, Indianapolis, IN 46206-6028

Phone: 317-806-1200 • FAX: 317-806-1203 • Internet: www.usafunds.org

INVESTING in Arizona's Future

College Access, Affordability, and the Impact of Investment in Need-Based Financial Aid

A POLICY REPORT BY:

**Institute for Higher Education Policy, Washington, DC, and
Latina/o Policy Research Initiative, The University of Arizona**

Ronald A. Phipps • José Luis Santos • Jamie P. Merisotis

for the Arizona Commission for Postsecondary Education

MARCH 2005

Funding for this project was made possible through the generous support of **USA Funds®**

ACKNOWLEDGMENTS

The authors are grateful to many individuals and organizations for their efforts in making this study a success. We especially thank April Osborn, Executive Director of the Arizona Commission for Postsecondary Education, for her continuing encouragement and guidance as this project evolved. Thanks also to all of the members of the Arizona Commission for Postsecondary Education Need-Based Financial Aid Task Force for their time and input towards shaping the document and improving its content.

We also would like to thank the many persons at both the state and national levels who provided us with data and information that have been critical to the substantive analysis contained in this report. We particularly extend our appreciation to Judy Gragg from the Arizona Community College Association and Cathy Griffin from the Arizona State Library, Archives and Public Records for their time and efforts.

Our day-to-day colleagues deserve special mention. Sincere thanks are extended to Chuck Tatum, Dean, College of Humanities at The University of Arizona, not only for supporting this project, but also for his leadership in helping to launch the Latino Policy Research Initiative. We also heartily acknowledge our Institute for Higher Education Policy colleagues Sarah Krichels, Research Analyst, and Loretta Hardge, Director of Communications, for their very careful editing, fact checking, and overall feedback at various stages of the study. Thanks also to Melissa Clinedinst, former Senior Research Analyst at the Institute, for her important role in the early stages of the research.

Finally, we would like to acknowledge the critical role of Henry Fernandez, Executive Director of Scholarships, Outreach and Philanthropy at USA Funds, as well as the entire USA Funds executive team, in making this project possible. From conception to final design, USA Funds has been an outstanding partner and supporter of the project.

We acknowledge the assistance and support of USA Funds and other organizations that provided data and feedback and recognize that they are not responsible for any errors of omission or interpretation contained herein.

Foreword

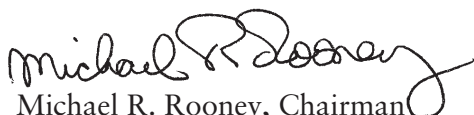
As the Chairman of the Arizona Commission for Postsecondary Education and as a business person who is concerned about the economic future of the State of Arizona, I celebrate and value the many unique assets in our state. From the Grand Canyon to the Sonoran Desert this state is rife with beauty and bountiful resources. Ranking first among them is the burgeoning numbers of young people who are in our education system. Arizona is blessed with the bounty of a growing population that provides a unique opportunity for economic growth—making Arizona the envy of states whose cities, towns, and young people are diminishing.

The authors of this paper explain that we have a challenge to address before we can realize the full benefit of our extraordinary demographic potential. This challenge is illustrated by two circumstances. First, Arizona's economy is increasingly driven by industries that need a workforce possessing postsecondary education or training. And second, we are placing an increasing proportion of the financial burden of achieving education on the student and their family. In 2003, the average Arizona postsecondary student borrowed more than \$3,600. This burden is an even more serious problem for us because of the lean financial assistance available to Arizona students. The remembered days of "working your way through college" have been replaced with working students who are restricting their lifestyle to keep their student loans under \$15,000.

The cost to students and their families is a barrier for low income students. The result is that less than 16 percent of Arizona's low income ninth grade students are likely to enroll in college five years later. National reports indicate that approximately 200,000 low-income high school graduates who could succeed in college do not enroll. This number does not include the adult students seeking to improve their lives and career options through postsecondary education.

Arizona cannot afford to lose the precious demographic resource of our young people and returning adults who would benefit from postsecondary education but cannot afford to attend.

I am pleased that "Investing in Arizona's Future" begins the necessary state-level dialogue around this important issue. I am grateful for the leadership of Arizona Commission for Postsecondary and the generosity of USA Funds in providing this document. As the authors describe, it will take philanthropy, government, policymakers, private and public educators, and business working together to address the issue for the benefit of Arizona's economy. I look forward to working with you so that all citizens of this state benefit from the economic growth that an educated workforce provides.



Michael R. Rooney, Chairman
The Arizona Commission for Postsecondary Education

List of Tables and Figures

FIGURES

- Figure 1** The Array of Higher Education Benefits
- Figure 2** Median Earnings of Year-round, Full-time Workers in Arizona Age 30 and Over, by Educational Attainment, 1999
- Figure 3** LEAP Total Funds Awarded in Thousands: FY 1995-2004
- Figure 4** LEAP Total Funds Awarded in Thousands, in 2004 Constant Dollars: FY 1995-2004
- Figure 5** LEAP Total Funds Awarded in Thousands, by Funding Source: FY 1995-2004
- Figure 6** Arizona State Grant Aid Targeted to Low-income Students as a Percent of Federal Pell Grant Aid
- Figure 7** Appropriation of Arizona State Tax Funds for Higher Education Per Capita (\$): 1998 to 2004
- Figure 8** Arizona University System Tuition and Fees, Percentage Change: AY 1994-2005
- Figure 9** Arizona University System Tuition and Fees, 1993-94 to 2004-05
- Figure 10** Arizona Community College Districts Average Resident Tuition and Fees (30 credit hours): 1994-95 to 2003-04
- Figure 11** Average Student Loan Amounts Borrowed by Undergraduates, 2003
- Figure 12** Arizona Enrollment Trends: Grade Level K-12 by Ethnicity (1990-91 to Fall 2003)

TABLES

- Table 1** Percentage of Population Age 25 and Older in the Labor Force Who Were Not Employed in March 2004, by Educational Attainment
- Table 2** Percentage of Population Age 25 and Older Who Received Public Assistance in the Year 2003, by Educational Attainment
- Table 3** Percentage of Population Age 25 and Older Who Described their Health as Good, Very Good, or Excellent in March 2004, by Educational Attainment
- Table 4** Percentage of Population Age 25 and Older Who Voted in the November 2000 Election, by Educational Attainment
- Table 5** Percentage of Population Age 25 and Older Who Reported Ever Volunteering for or through an Organization in September 2004, by Educational Attainment
- Table 6** Family Ability to Pay for Postsecondary Education in Arizona
- Table 7** Arizona Public High School Graduates, 1992-93 through 2001-02 (actual), 2002-2003 through 2017-2018 (projected)

Table of Contents

Executive Summary	1
Introduction	5
Benefits to Individuals and Society	7
Public Investment in Access.....	11
Rising Tuition	19
Consequences of Declining Public Investment	23
Conclusion	27
References	29

Executive Summary

Today, a college degree is an ever-increasing milestone on the road to personal success. Although the gains of education that accrue to the individual are more obvious, society also has much to gain from an educated populous. These dual benefits provide the rationale to spend taxpayer dollars to help capable but economically disadvantaged students attain college degrees. Yet, in response to shifting attitudes about the relative importance of individual and societal benefits, the size of the public contribution in the U.S. has diminished during the past several years. This report strives to provide information to help maintain a balance between individuals' and society's contribution to the cost of college.

Analyzing data from a variety of sources, this study documents widespread and dramatic benefits to the state of Arizona from investing in higher education and the critical role played by student financial aid. This report catalogues a variety of public and private benefits, both social and economic, derived from educational attainment of the citizens of the state of Arizona. In short, college matters, both to the individual members of the workforce of the state of Arizona and to their fellow Arizona citizens who reap the rich rewards of their efforts. For instance, there is compelling evidence that annual salaries increase substantially with higher educational attainment, and that persons with a bachelor's degree enjoy greater health than those with less education. With respect to public benefits, as the education of citizens increases, there is a *lower* percentage of individuals relying on public assistance and a *higher* percentage of people voting and volunteering. Conversely, the failure to attain these benefits has serious negative consequences for the state, such as higher unemployment, increasing expenditures on public assistance programs, and the necessity of importing a labor force from outside the state to fill openings for skilled jobs.

Given the obvious and varied benefits of education, to what extent does, and should, the state invest in access to higher education? Society's current financial investments are made through: (1) direct student financial aid, (2) governmental financial support to colleges and universities, (3) funds raised by colleges and universities, and (4) private sector scholarships. This cost-sharing system supports the important societal goal of access for low-income students and enhances both the personal and societal benefits of higher education.

Arizona's postsecondary education system consists of three public four-year universities, 10 public two-year colleges (community college districts), two tribal colleges, and 163 private four-year, two-year, and less-than-two-year colleges. Students attending these institutions are eligible to participate in an array of federal, state, institutional, and private programs that offer financial aid in the form of grants, loans, and work-study.

This partnership of support for students is a critical element of the success of the American system of postsecondary education. Total support nationally for students from all sources equaled more than \$122 billion in 2003-04, with the federal government accounting for two-thirds of the total.

The state of Arizona offers two direct grant programs for low-income students. One program, the Leveraging Educational Assistance Partnership (LEAP), available to students in all sectors of postsecondary education, establishes a federal-state partnership to provide financial assistance in the form of grants to financially needy students. The other program is the Private Postsecondary Education Student Financial Assistance Program (PFAP), which targets public community college graduates who wish to attend a private postsecondary institution. This report shows in some detail that LEAP has experienced substantial declines over several years, which has had an adverse impact on the neediest of Arizona's students and their families. With regard to PFAP, the program has experienced a sharp decline in its support during the last two years after several years of an unpredictable but generally upward trend in state funding. The diminished support for these programs notwithstanding, it is important to know that the funding for both LEAP and PFAP is miniscule compared to the aid programs in other states. Based on total financial aid awarded by the state, Arizona ranks in the bottom five nationally. Most other low-ranking states, such as Montana, North Dakota, and Wyoming, have higher education sectors that are considerably smaller than is found in Arizona.

An additional state financial aid program known as the Arizona Financial Aid Trust Fund (AFAT) was established by the Arizona Board of Regents and enacted by the Arizona Legislature in 1989. AFAT is composed of student enrollment surcharge fees and state appropriated funds. The surcharge is assessed at 1 percent of resident tuition and is currently \$39 per year for students enrolled for more than six credits. The distribution of the trust fund monies is as follows: 50 percent of the annual trust fund monies shall be placed in the permanent endowment, and 50 percent shall be used for immediate aid. Moreover, at least one-half of the immediate aid funds amount must be used for grant aid. The Arizona Joint Legislative Budget Committee (JLBC) has proposed that \$2,161,200 from the General Fund be used for student financial assistance under AFAT in FY 2006. In short, these monies are to be deposited in the AFAT to match (on a dollar for dollar basis) student financial aid surcharge fees collected from university students.

Compounding this limited investment in financial aid for needy students, the higher education sector in Arizona has experienced declining support. In 1998, Arizona was 30th in tax funds for higher education per capita compared to the other states; by 2004, the state had dropped to 44th. At approximately the same time, tuition at the Arizona University System had been rising dramatically, particularly between 2002-03 and 2003-04, when the increase was an extraordinary 39 percent. At the community colleges, the average increase in tuition between 2002-03 and 2003-04 was 16 percent. One consequence of this "perfect storm"—a limited commitment to financial aid for the needy, declining support for the university system, and rising tuition—is that students tended to borrow more. In 2003, Arizona was among the top 10 states with the highest average loan amounts among students.

Moreover, Arizona is experiencing a surge in the number of high school graduates—a projected 58 percent increase from 2001-02 to 2017-18. If the promise of the federal No Child Left Behind law is fulfilled, an increasing percentage of these new high school graduates will be college qualified. Most of this growth in college-qualified high school graduates will occur among groups who are most in need of grant aid—minority, low-income, and first generation students. For example, the number of Hispanic high school graduates is projected to increase by 166 percent, and the number of Black high school graduates is expected to grow by 80 percent, while the number of whites will increase by only 9 percent. Put another way, in 2001-02, Black, Hispanic, and Native American graduates made up 36 percent of all high school graduates; in 2017-18, that percentage is projected to be 53 percent.

It is therefore imperative that Arizona policymakers and advocates for higher education initiate discussions that focus on at least three factors that affect access: (1) student financial aid, (2) funding for public higher education institutions, and (3) tuition policy. Investment in financial aid must be a priority for the state, given the inadequate support for aid that characterizes the current system. Arizona must make a clear commitment that those with the academic capacity but without the financial means will not be denied the opportunity to contribute to the state's future well-being. Need-based financial assistance should be an important new policy anchor in the state's overall postsecondary education funding strategy.

Three key actions should be taken to emphasize the high priority of need-based aid in Arizona. First, the state should develop a statewide clearinghouse of information on all forms of financial assistance, including federal, state, institutional, and private scholarship resources. The clearinghouse should be accessible in a form that provides the public with clear and timely information regarding each and every dollar available to pay for postsecondary education.

Second, a statewide financial literacy program should be created to assist families in planning for postsecondary expenses and to reinforce the concept of investment and return on postsecondary education to the public. Such a program should include information on education costs, savings plan options, tax credit programs, student loans, and expectations for financial assistance programs.

Third, all sectors and parties who benefit from the investment in higher education—including business, philanthropy, government (both federal and state), tribes, and individual donors—must work together as partners in expanding the limited Arizona funds available to assist low-income students. Such a partnership will demonstrate a commitment on the part of the entire state to a new model of economic growth that is driven by a locally educated workforce.

At the same time, it is essential that the three major avenues for promoting student access—student financial aid, funding for public higher education institutions, and tuition policy—be considered in tandem. For instance, if support for student financial aid is increased, its impact on access will be negated if tuition at the state's colleges and universities rises commensurately. Likewise, if financial support for Arizona's higher education community is limited to the extent that tuition needs to rise,

access is harmed despite increases in student financial aid. An important part of this calculation is that it is incumbent upon the state's public colleges and universities to operate as efficiently as possible to ensure that tuition can be set as low as possible. In sum, this tripartite focus on public policy will enable the state to promote access in a comprehensive and effective way. Such an investment in access will go a long way toward ensuring that the citizens and the state of Arizona together will reap the rich economic and social rewards of that investment.

Introduction

Today, a college degree is an ever-increasing milestone on the road to personal success. Although the gains of education that accrue to the individual are more obvious, society also has much to gain from an educated populous. These dual benefits provide the rationale to spend taxpayer dollars to help capable but economically disadvantaged students attain college degrees. Yet, in response to shifting attitudes about the relative importance of individual and societal benefits, the size of the public contribution in the U.S. has diminished during the past several years. This report strives to provide information to help maintain a balance between individual's and society's contribution to the cost of college.

The report was inspired in part by a nationally acclaimed 2004 study by the Institute for Higher Education Policy and Scholarship America entitled *Investing in America's Future: Why Student Aid Pays Off For Individuals and Society*. That study documented widespread and dramatic benefits to the nation from investing in higher education and the critical role played by student aid. The national report used federal and other aggregated national data to paint a portrait of the importance of investing in higher education.

This report, *Investing in Arizona's Future*, extends the analysis used at the national level and applies similar methodology to the state level. In particular, this study is an analysis of data from the Arizona Commission for Postsecondary Education (ACPE), Arizona Board of Regents (ABOR), Arizona Community College Association (ACCA), Arizona Department of Education Joint Legislative Budget Committee (JLBC), the U.S. Census Bureau, U.S. Department of Education, and other sources that collect and analyze information about state policy and trends.

Benefits to Individuals and Society

Many attempts have been made to accurately document and quantify the benefits of higher education for both the individual and society. The most commonly accepted public and private benefits are catalogued in Figure 1 according to their economic or social value (Institute for Higher Education Policy, 1998). As the proportion of jobs that require a bachelor's degree increases, the relative value of higher education will shift toward the public domain. Some projections using U.S. Department of Labor data estimate that by 2020 there will be 12 million more skilled jobs in the U.S.—those requiring a college education—than people qualified to fill them (Carnevale & Fry, 2001). Seventy percent of the top 30 fastest growing jobs nationally in the next decade will require postsecondary education (BLS, 2004).

Figure 1. The Array of Higher Education Benefits

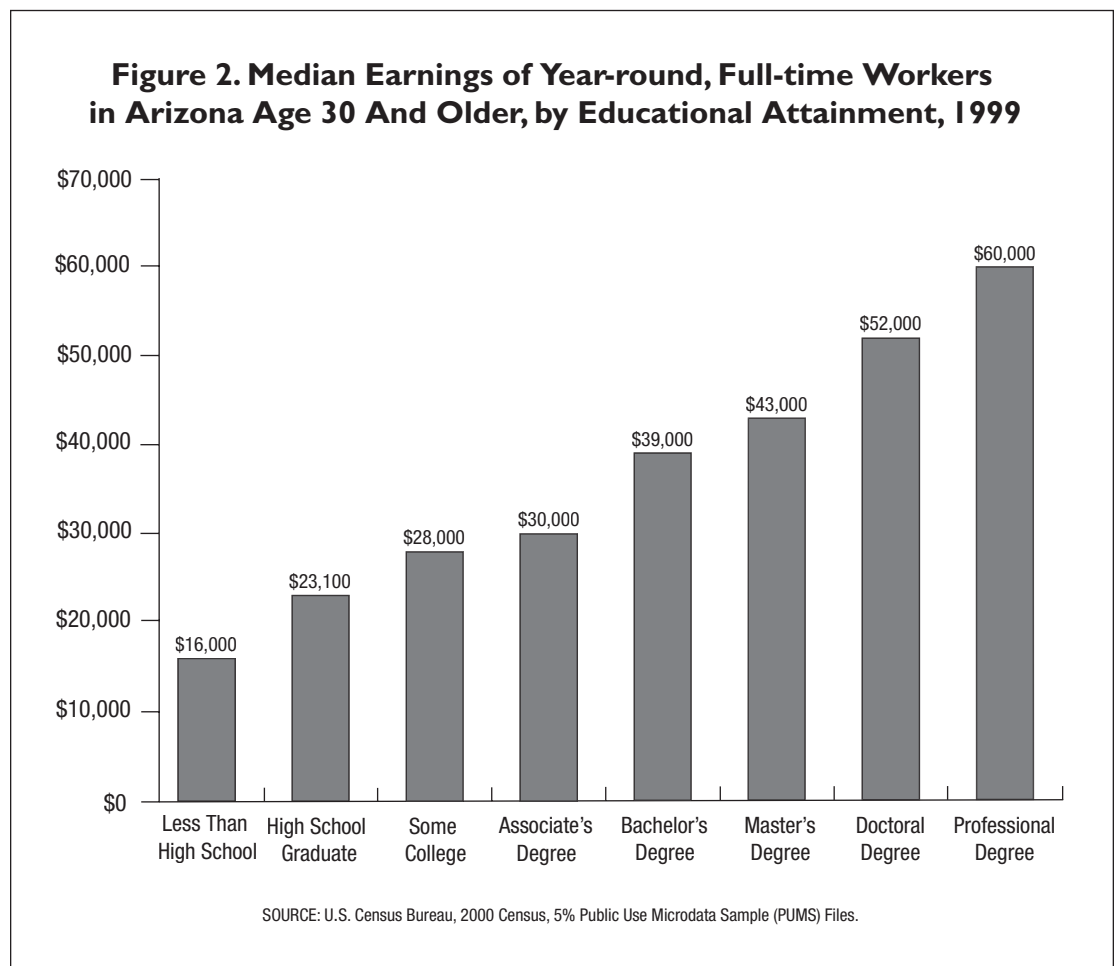
	PUBLIC	PRIVATE
Economic	<ul style="list-style-type: none"> ○ Increased Tax Revenues ○ Greater Productivity ○ Increased Consumption ○ Increased Workforce Flexibility ○ Decreased Reliance on Government Financial Support 	<ul style="list-style-type: none"> ○ Higher Salaries and Benefits ○ Employment ○ Higher Savings Levels ○ Improved Working Conditions ○ Personal/Professional Mobility
Social	<ul style="list-style-type: none"> ○ Reduced Crime Rates ○ Increased Charitable Giving/Community Service ○ Increased Quality of Civic Life ○ Social Cohesion/Appreciation of Diversity ○ Improved Ability to Adapt to and Use Technology 	<ul style="list-style-type: none"> ○ Improved Health/Life Expectancy ○ Improved Quality of Life for Offspring ○ Better Consumer Decision Making ○ Increased Personal Status ○ More Hobbies, Leisure Activities

SOURCE: Institute for Higher Education Policy. 1998. *Reaping the Benefits: Defining the Public and Private Value of Going to College*. Washington, DC.

Private Economic Benefits

National discussions about the value of postsecondary education often target the private economic benefits that college provides. In a state like Arizona, policymakers and education advocates often cite the private economic benefit of income. Clearly median annual salaries are strongly related to educational credentials. As shown in Figure 2, a bachelor's degree recipient in Arizona can expect to earn 1.7 times more per year than a high school graduate. Indeed, even an Arizona resident with just some college education can expect to earn almost \$5,000 more annually than a high school graduate.

This statistic suggests the potential for dramatic economic benefits to the state. According to the National Center for Public Policy and Higher Education, whites in Arizona are at least two times as likely to have attained a bachelor's degree as those from minority ethnic groups (one of the widest gaps in the country). Were these groups able to attain the same level of education and earnings as their white counterparts, the total personal income in the state of Arizona would increase by roughly \$5.4 billion, and the state would collect almost \$2 billion in additional income tax revenues (Measuring Up: Arizona, 2004).



The proportion of unemployed workers age 25 years and older is another indicator that can be associated with higher education attainment. Table 1 illustrates that in March 2004, 7 percent of individuals with less than a high school diploma and more than 4 percent of those holding a high school diploma or its equivalent were unemployed in Arizona—in contrast to much smaller rates of unemployment among those with some college experience or a college degree.

Public Economic Benefits

Along with the private economic benefits of higher education, there are also public economic benefits. One is a decreased reliance on public assistance programs. In Arizona, 3 percent of individuals age 25 years and older who had less than a high school diploma received public assistance in 2003, compared to less than 1 percent of those with some college experience or a degree (Table 2).

Private Social Benefits

Private social benefits are those that accrue to individuals or groups and are not directly related to economic, fiscal, or labor market effects. One quantifiable indicator in this private social benefits category is personal health. Table 3 shows that more than 89 percent of people in Arizona with a bachelor's degree or higher reported “excellent, very good, or good health,” compared to less than 80 percent of those with less than a high school diploma. These numbers are similar to national findings.

Table 1. Percentage of Population Age 25 and Older in the Labor Force Who Were Not Employed in March 2004, by Educational Attainment

	Less than HS	High school diploma	Some college	Bachelor's degree (BA,AB,BS)	Advanced
United States	10.2%	5.9%	4.8%	3.0%	2.6%
Arizona	7.0%	4.4%	3.8%	1.8%	2.9%

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), March 2004 Supplement (2004).

Table 2. Percentage of Population Age 25 and Older Who Received Public Assistance in the Year 2003, by Educational Attainment

	Less than HS	High school diploma	Some college	Bachelor's degree (BA,AB,BS)	Advanced
United States	2.1%	0.9%	0.9%	0.3%	0.1%
Arizona	3.2%	1.3%	0.1%	0.9%	0.0%

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), March 2004 Supplement (2004).

Table 3. Percentage of Population Age 25 and Older Who Described their Health as Good, Very Good, or Excellent in March 2004, by Educational Attainment

	Less than HS	High school diploma	Some college	Bachelor's degree (BA,AB,BS)	Advanced
United States	67.3%	82.0%	87.2%	92.6%	92.5%
Arizona	78.9%	84.8%	86.5%	89.3%	91.6%

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), March 2004 Supplement (2004).

Table 4. Percentage of Population Age 25 and Older Who Voted in the November 2000 Election, by Educational Attainment

	Less than HS	High school diploma	Some college	Bachelor's degree (BA,AB,BS)	Advanced
United States	42.1%	56.0%	67.3%	76.3%	82.1%
Arizona	32.5%	47.3%	59.3%	72.9%	79.4%

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), Voting and Registration Supplement (November 2000)

Public Social Benefits

Various levels of civic life show improvements by educational attainment. Voting is one important civic duty where the contrast by educational attainment is startling, as Table 4 illustrates. In the November 2000 election, of those in the state with a high school diploma or its equivalent, 47 percent voted, compared to three-fourths (73 percent) of those with a bachelor's degree.

Volunteerism is another public social benefit that is highly related to educational levels. As Table 5 shows, about one in 10 persons in Arizona age 25 and older with less than a high school diploma reported volunteering for or through an organization in September 2004, while about four out of 10 with some college or a bachelor's degree did so.

Combined, these data strongly suggest that postsecondary education provides important and tangible benefits to society and to individuals. It is therefore reasonable to conclude that there is a significant return on the public investment in higher education both to the state of Arizona and to the individuals who reside in the state.

Table 5. Percentage of Population Age 25 and Older Who Reported Ever Volunteering for or through an Organization in September 2004, by Educational Attainment

	Less than HS	High school diploma	Some college	Bachelor's degree or higher
United States	11.8%	20.8%	31.0%	36.1%
Arizona	13.6%	23.8%	37.1%	41.2%

SOURCE: U.S. Census Bureau, Current Population Survey (CPS), Volunteering Supplement (September 2004).

Public Investment in Access

Because higher education confers both personal and societal benefits, the cost is shared among several constituencies: students and families, taxpayers, colleges and universities, and the private sector. Among society's financial investments are: (1) direct student financial aid—provided largely by the federal government and states, (2) financial support to colleges and universities in the form of state and local government appropriations, (3) funds raised by colleges and universities, and (4) private sector scholarships. This cost-sharing system supports the important societal goal of access for low-income students and enhances both the personal and societal benefits of higher education.

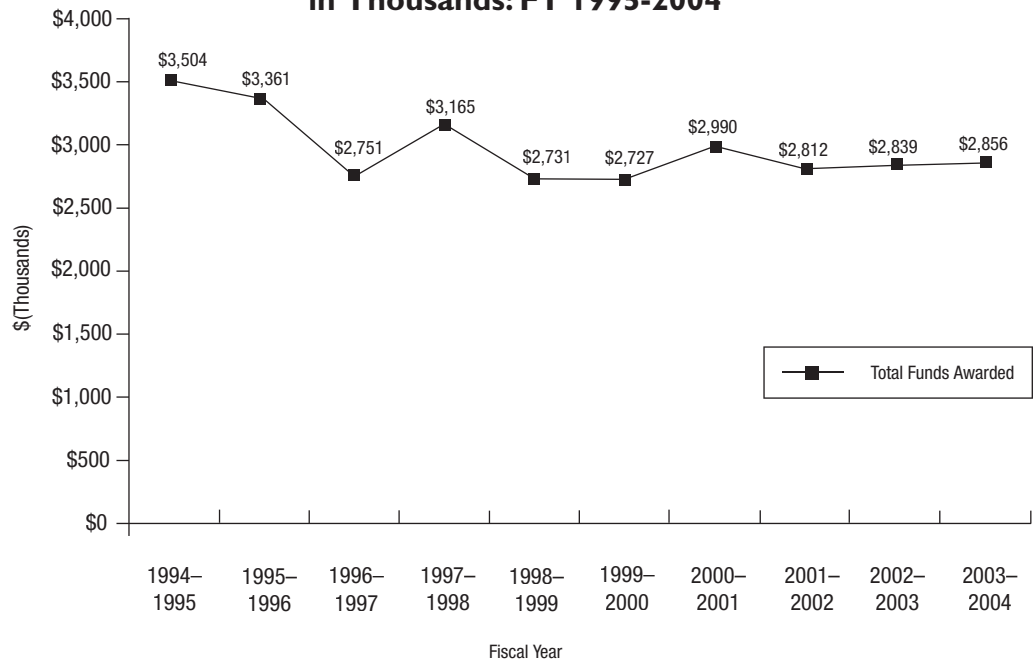
However, the relative amount and type of support provided by these partners has shifted substantially over the last three decades, resulting in diminished college access for low-income students nationwide. Of particular importance, two changes—declining support for grant aid in the federal student financial aid system, and decreased state and local appropriations to colleges and universities—have shifted more of the cost of higher education to students and their families. This dramatic shift in the cost-sharing system has disproportionately affected the ability of low-income students to finance their college education.

In Arizona, much of the state-level public investment in student aid for low-income students is accomplished through two grant programs administered by the Arizona Commission for Postsecondary Education: (1) the Leveraging Educational Assistance Partnership (LEAP) program, and (2) the Private Postsecondary Education Student Financial Assistance Program (PFAP).

The LEAP program establishes a federal-state partnership to provide financial assistance in the form of grants to students who have demonstrated financial need. The state portion of the appropriation for LEAP in 2004 equaled \$1.2 million. Federal funds that were once provided to match state funds for LEAP on a dollar for dollar basis have been reduced over time since the federal matching fund was never designed to sustain its initial contribution of \$1.2 million. Each participating institution, public or private, provides institutional matching funds that are almost equal to the amount of funds provided by the state for LEAP. The maximum LEAP award is \$2,500, and the minimum is \$100 per academic year. However, allocations of these LEAP funds for private or public postsecondary institutions are varied and limited year-to-year, and thus, are only available for a relatively small number of need-based grants. As a result, the per-student awards are quite low, often averaging less than \$500.

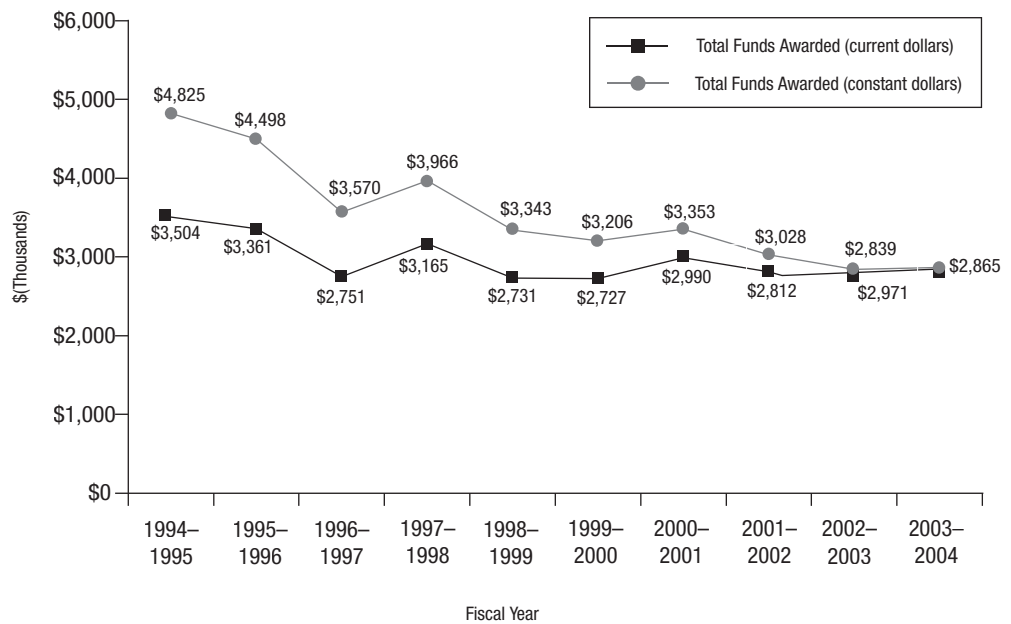
Figure 3 shows the total funds awarded through LEAP (including state, federal, and institutional contributions) in the most recent 10-year period. Since FY 1995, funding

**Figure 3. LEAP Total Funds Awarded
in Thousands: FY 1995-2004**



SOURCE: Arizona Commission for Postsecondary Education (2004).

**Figure 4. LEAP Total Funds Awarded in Thousands,
in 2004 Constant Dollars: FY 1995-2004**

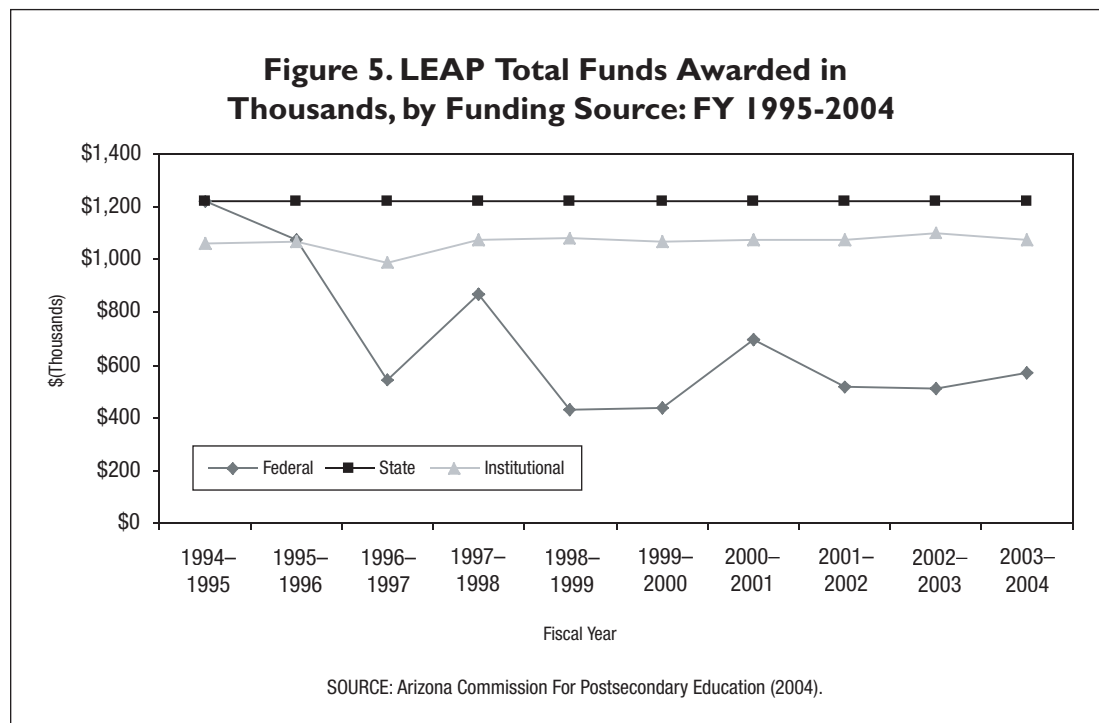


SOURCE: Arizona Commission for Postsecondary Education (2004); HEPI, Research Associates of Washington DC, (2004)

for the LEAP program has continued on a downward trend resulting in an absolute decrease of 18 percent. In the 10-year period from FY 1995-2004, funding for the LEAP program decreased from \$3.5 million to \$2.9 million, a time period when the cost of living increased substantially.

Adjusting for this cost of living increase, the previous chart compares the total funds awarded in current dollars (nominal dollar) to the total funds awarded in 2004 constant dollars (inflation adjusted) as shown in Figure 4. This comparison depicts the magnitude of the decrease in support for the LEAP program by taking inflation into account. As stated previously, funding for the LEAP program has decreased by 18 percent in current dollars between FY 1995-2004. This translates into a \$640,000 decrease in real terms. However, when measured in 2004 constant dollars, adjusting for the Higher Education Price Index (HEPI), funding for the LEAP program has decreased by nearly \$2 million, from \$4.8 million in FY 1995 to \$2.9 million in FY 2004. This translates into a 41 percent decrease (inflation adjusted).

Figure 5 illustrates the impact that various funding sources have on the total LEAP funds awarded for the 10-year period. The state's contribution over the years has remained constant at \$1.2 million even as the federal matching fund has diminished sharply. Similarly, the various postsecondary institutions' contributions have also remained virtually unchanged as the matching fund is tied to the state's contribution. While both the state's and the institutions' contributions have remained constant over the last 10 years, the federal government's contribution has been volatile and clearly has shifted downward representing an absolute decrease of 53 percent, from \$1.2 million in FY 1995 to \$569,000 in FY 2004. The downward



shift in the federal government's matching fund for the LEAP program is significant; however, what is of further significance is that the state has been unable to offset any difference in the federal government's decrease, which explains the overall drop in total funds awarded for the LEAP program itself. This trend has an adverse impact on the neediest of Arizona's students and their families seeking participation in Arizona's postsecondary institutions as it clearly shifts the cost burden to students and families.

A related program, the Private Postsecondary Education Student Financial Assistance Program (PFAP) is directed to public community college graduates who wish to attend a private postsecondary institution. The state appropriation for 2004 is \$186,550, and the total yearly academic award is \$1,500. The total lifetime award is \$3,000.

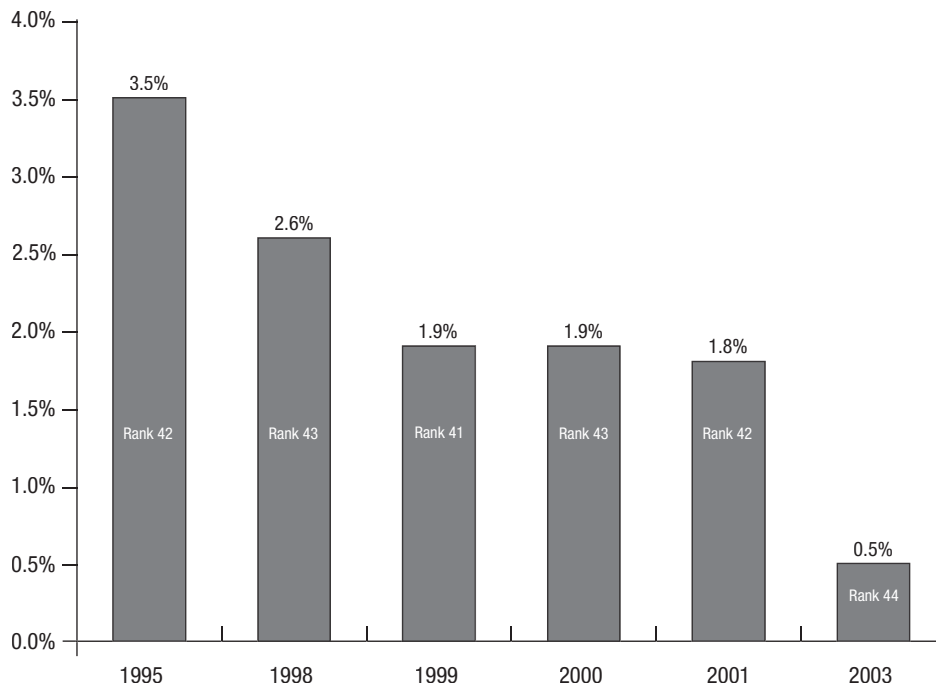
PFAP has experienced an erratic and seemingly upward trend since FY 1997; however, in the last two years funding for PFAP has taken a precipitous nosedive. From FY 1997 to FY 2002, the PFAP enjoyed a set of periodic increases resulting in an overall increase of more than 1000 percent, from \$39,000 to \$432,780. However, in the next two years PFAP experienced a downward trend resulting in an absolute decrease of 57 percent. Thus, while funding has increased over the eight years, the troubling fact is that there is so little money available through the program (even in comparison to LEAP). In short, support for this program is decreasing sharply.

One important fact to emphasize about both LEAP and PFAP is their relative small amount compared to the aid programs in other states. Based on total financial aid awarded by the state in 2002-03, Arizona ranks among the bottom five states nationally. Most of the other lowest-ranking states, such as Montana and Wyoming, have higher education sectors that are considerably smaller than is found in Arizona (NASSGAP, 2004).

Another student aid program known as the Arizona Financial Aid Trust Fund (AFAT) was established by the Arizona Board of Regents and enacted by the Arizona Legislature (pursuant to A.R.S. 15-1642 enacted by the 39th Arizona Legislature in 1989) and is composed of student enrollment surcharge fees and state-appropriated funds. The fund was established to (1) provide immediate aid to students with verifiable financial need, including students who are underrepresented in the population of the university, or (2) to students who, by virtue of their special circumstances, present unique need for financial aid, and (3) to create an endowment for future financial aid. The AFAT surcharge is assessed at 1 percent of resident tuition and is currently \$39 per year for students enrolled for more than six credits. The distribution of the trust fund monies is as follows: 50 percent of the annual trust fund monies shall be placed in the permanent endowment, and 50 percent shall be used for immediate aid. Moreover, at least one-half of the immediate aid funds amount must be used for grant aid.

The Arizona Joint Legislative Budget Committee (JLBC) has proposed that approximately \$2,161,200 be appropriated from the General Fund and used for student financial assistance under AFAT in FY 2006 (JLBC 2005). In short, these

Figure 6. Arizona State Grant Aid Targeted to Low-income Students as a Percent of Federal Pell Grant Aid



NOTE: Data not available for all years.

SOURCE: *Measuring Up: The State-by-state Report Card For Higher Education*, NCHEMS. Available at www.higheredinfo.org.

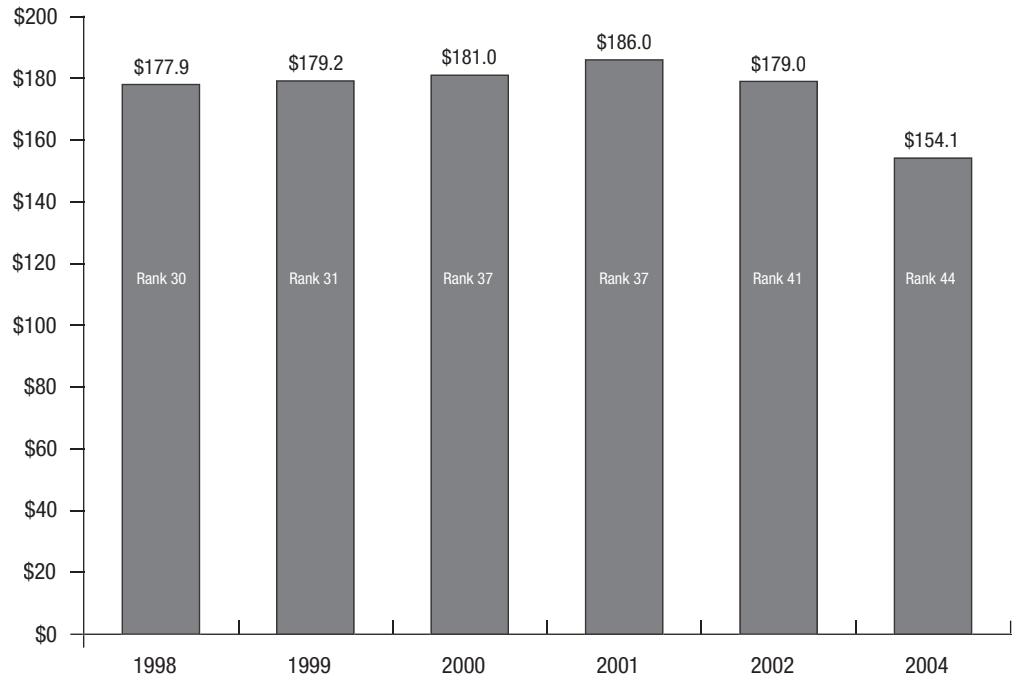
monies are to be deposited in the AFAT with the intent to match (on a dollar for dollar basis) student financial aid surcharge fees collected from university students.

An accounting of the actual dollars provided through the state's student aid programs examines the public investment from one point of view. Figures 6 and 7 offer different perspectives on the issue of public investment in access. Figure 6 shows that Arizona's grant aid to low-income students as a percent of the federal Pell Grant has steadily decreased from 1995 to 2003. In 2003, Arizona ranked 44th in relation to the other states on this indicator (National Information Center for Higher Education Policymaking and Analysis, 2004).

Figure 7 shows that the appropriation of Arizona's tax funds for higher education per capita has decreased for several years. As shown, the state's ranking in this important index has changed from number 30 in 1998 to number 44 in 2003.

The combination of these two indicators has, in part, contributed to the great difficulty experienced by lower-income families in paying for a college education. As Table 6 shows, those who are striving to reach or stay in the middle class—the 40 percent of the population with the lowest incomes—earn on average \$18,863 each year. If a student from such a family were to attend a community college in the state, the net

Figure 7. Appropriation of Arizona State Tax Funds for Higher Education Per Capita (\$): 1998 to 2004



NOTE: Data not available for all years.

SOURCE: James Palmer, *Grapevine*. Available at www.higheredinfo.org.

cost would represent about 37 percent of the family's annual income. If the same student were to attend a public four-year college in the state, the net cost would be almost half (46 percent) of the family's annual income.¹ (National Center for Public Policy and Higher Education, 2004)

¹ Net college cost equals tuition, room, and board minus financial aid.

Table 6. Family Ability to Pay for Postsecondary Education in Arizona

Income level (20% increments)	Average family income	Community Colleges		Public 4-year colleges/universities		Private 4-year colleges/universities	
		Net college cost*	Percent of income needed to pay net college cost	Net college cost*	Percent of income needed to pay net college cost	Net college cost*	Percent of income needed to pay net college cost
Lowest income	\$11,726	\$6,753	58%	\$8,343	71%	\$17,247	147%
Lower-middle income	\$26,000	\$7,152	28%	\$8,827	34%	\$17,078	66%
Middle income	\$42,000	\$7,393	18%	\$9,234	22%	\$16,647	40%
Upper-middle income	\$67,664	\$7,463	11%	\$9,422	14%	\$16,453	25%
Highest income	\$111,342	\$7,460	7%	\$9,489	9%	\$17,014	15%
40% of the population with the lowest income	\$18,863	\$6,952	37%	\$8,585	46%	\$17,162	91%

*Net college cost equals tuition, room and board, minus financial aid.

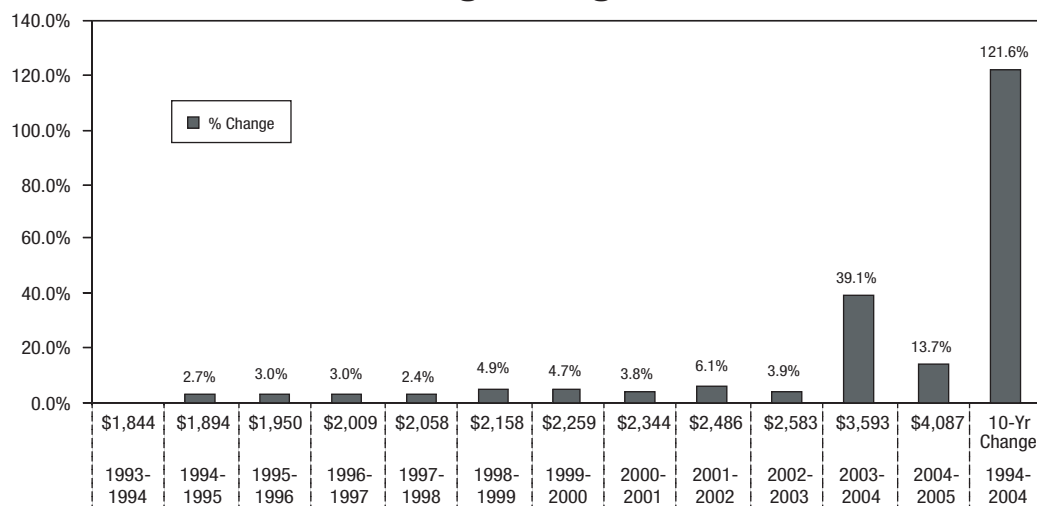
SOURCE: Adapted from *Measuring Up 2004: The State Report Card of Higher Education*, Arizona.

Rising Tuition

Despite little to no growth in college prices during the 1970s, tuition and fees began to grow at a faster rate than consumer prices during the 1980s. This trend continued through the 10-year period that started in 1994-95. Average tuition and fees at public four-year universities rose \$1,725 (51 percent) in constant 2004 dollars, while tuition and fees at private four-year colleges underwent an average increase of \$5,321 (36 percent). Similar trends are seen in two-year institutions, where average tuition and fees rose by \$426, or 26 percent (College Board, Trends in Pricing, 2004).

The prices charged by public colleges and universities in Arizona have tended to mirror the national trends. However, since 2000, resident undergraduate tuition and mandatory fees at the Arizona University System have increased dramatically. As illustrated in Figure 8, over a 10-year period, tuition and fees for resident students at Arizona's three public universities have steadily grown, with a sharp increase in the last three years. In the 1990s the rate of change in tuition and fees was small and incremental; however, between AY 2002-03 and 2003-04, tuition and fees rose significantly by 39 percent, the highest absolute percent increase anywhere in the country.

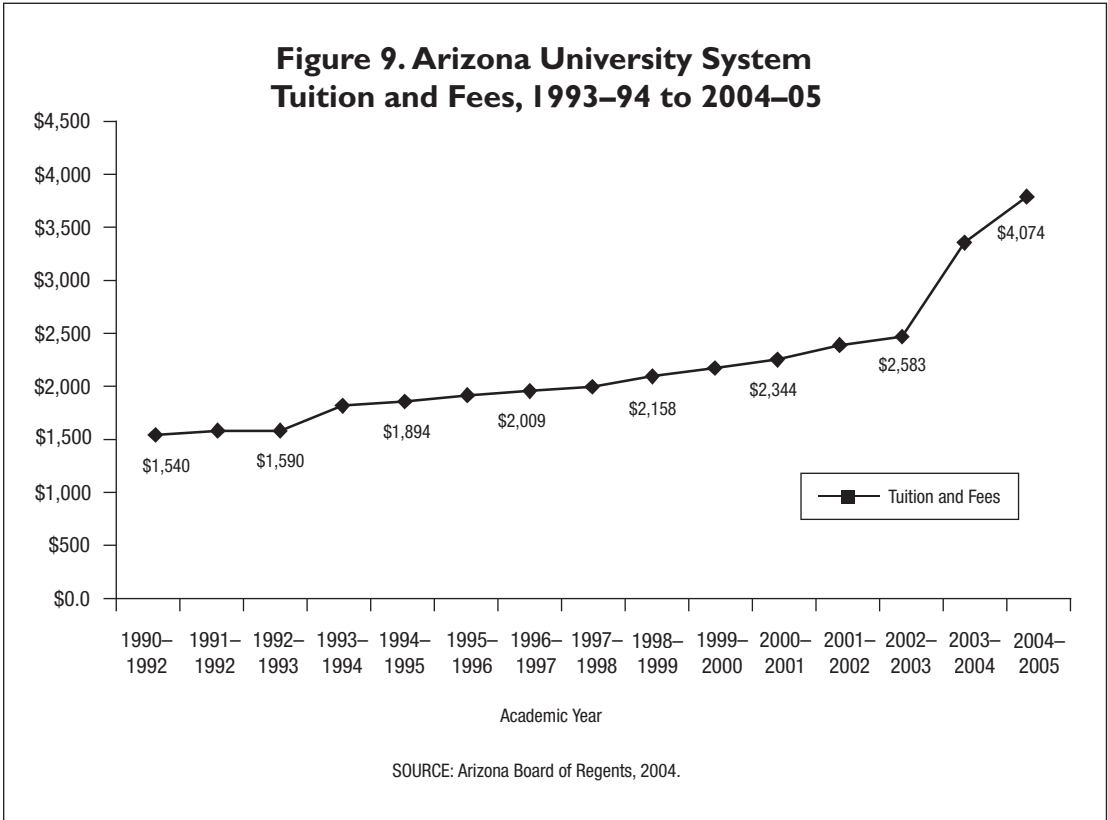
Figure 8. Arizona University System Tuition and Fees, Percentage Change: AY 1994-2005



SOURCE: Adapted From LPRI, (Forthcoming); Arizona Board Of Regents, (2004).

Moreover, Figure 9 shows that in the last three academic years the actual dollar amounts of tuition and fees have risen quite dramatically. This is consistent with a new tuition policy by the Arizona Board of Regents (ABOR) and the three public universities. In short, over the 10-year period, tuition and fees for all three universities have risen by 122 percent. But the increase in tuition rates at Arizona’s state universities is most pronounced in the last three years as the universities try to compete in the marketplace by incrementing tuition and fees to gain standing at the high end of the bottom third of public universities in the country. As of AY 2004-05, ABOR’s Changing Directions guidelines permitted the three universities to set differential tuition and fees. The lasting effects of such a major policy shift in tuition setting practices are still unknown; however, sizable upward shifts in tuition and fees are known to have adverse effects for low-income students and their families and traditionally underrepresented minorities as the “sticker shock” of such increases affects participation at the university level (Heller, 1997; Leslie & Brinkman, 1987).

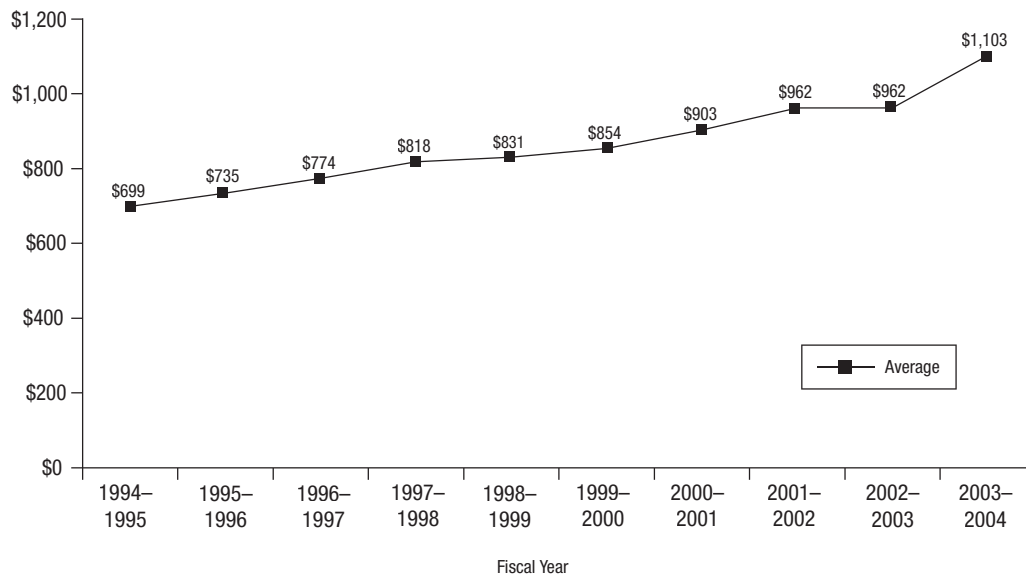
Figure 10 shows that the story of rising tuition at the 10 community college districts is much the same as that for the university system but substantially different in terms of magnitude and rate of increase. During this 10-year period, the average resident tuition and fees at the states’ community colleges has steadily grown, with a sharp increase in the last academic year. In the 1990s the rate of change in tuition and fees was small and incremental; however, between FY 2002-03 and 2003-04, average resident tuition and fees rose by a considerable 16 percent. Moreover, Figure 10 shows that in



the last academic year the actual dollar amounts of tuition and fees have risen quite dramatically. The rising tuition suggests that the 10 community college districts may be pursuing a more aggressive tuition-setting policy direction.

As is the case with the university system, the lasting effects of such a policy shift in tuition-setting practices at the community college level are still unknown. However, the apparent policy shifts in these two public systems (publicly articulated in the case of the Arizona Board of Regents on behalf of the university system, but not as explicit by the community college system) and the magnitude and direction of the resident tuition and fees changes are likely to create a significant financial burden for Arizona students who want to obtain a public postsecondary education.

Figure 10. Arizona Community College Districts Average Resident Tuition and Fees (30 credit hours): 1994–95 to 2003–04



NOTE: FY 2001–2002 data were provided by the individual community colleges and the report itself was furnished by the ACCA.

FY 2002–03 data were prepared by the state board of directors for community colleges of Arizona and furnished by the ACCA.

SOURCES: Arizona Community College Association (ACCA) (2004); State Board of Directors for Community Colleges of Arizona (1996; 2001).

Consequences of Declining Public Investment

Typically, the student aid investment in postsecondary education fosters access and encourages underrepresented groups to pursue higher education. As aid declines, the consequences vary across a wide spectrum, including growing student debt. This debt, exacerbated by changing demographics, could constrain economic growth for the state of Arizona.

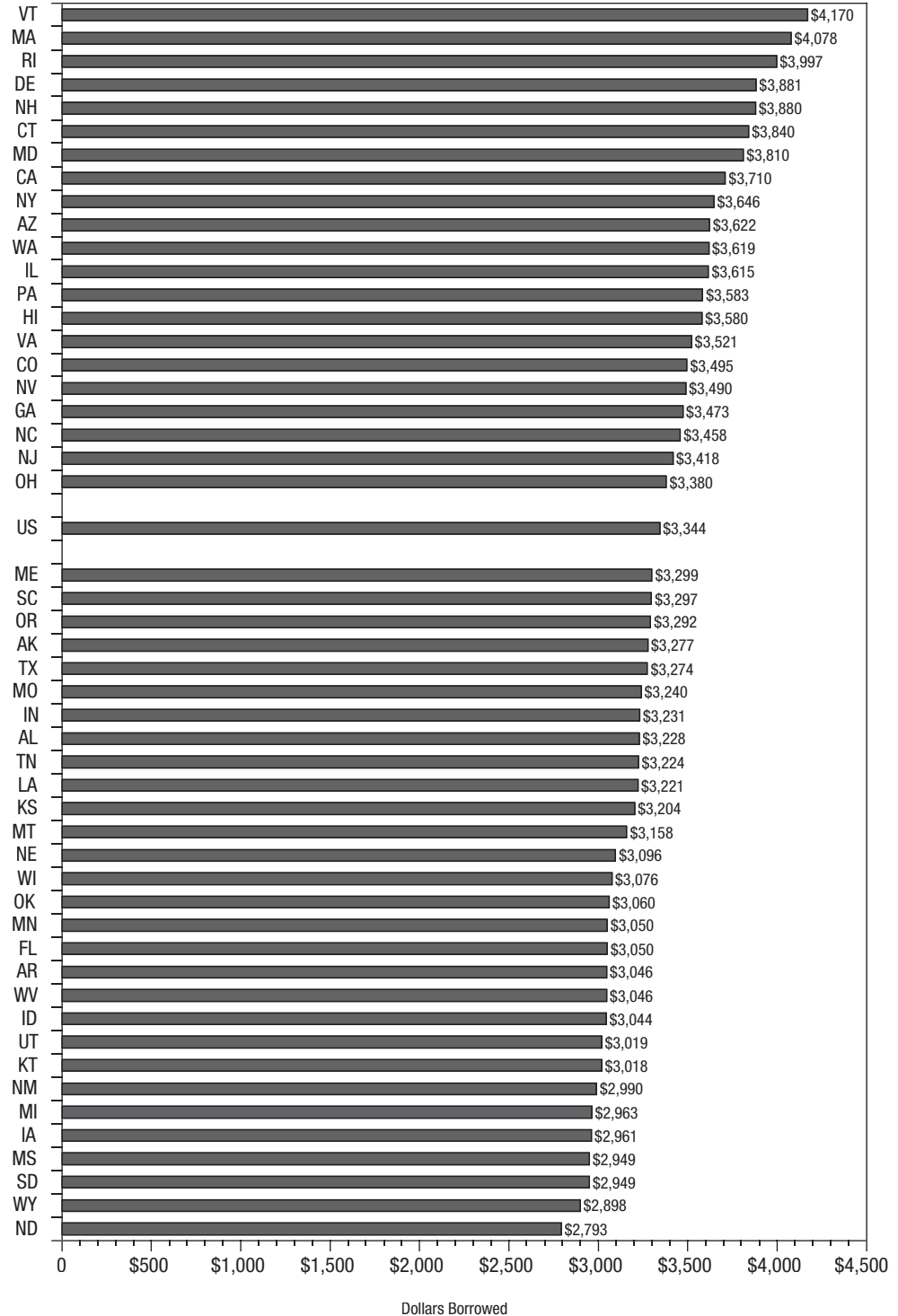
The Role of Debt

Students and their families continue to find ways to finance higher education despite financial hardships. One way is to borrow. Nationally, loans comprise about one-half of undergraduate student aid, and loans account for about three-quarters of graduate student aid (College Board, Trends in Student Aid, 2004). Compared to the other states, Arizona students borrow considerably more to help pay for college, as shown in Figure 11. In 2003, the average loan amount borrowed by undergraduate students in Arizona each year was \$3,622, compared to the U.S. average of \$3,344. This puts Arizona in the top 10 states with the highest average loan amounts among undergraduate students.

Many borrowers begin post-college life at a disadvantage to their non-borrower counterparts. A 1998 survey of student borrowers nationally revealed that for those who finished their degree programs, 40 percent delayed purchasing a home, 31 percent delayed buying a car, and 22 percent delayed having children due to student loan debt (Baum & Saunders, 1998). A more recent national survey showed that 39 percent of low-income borrowers reported that loan repayments caused more hardship than anticipated (Baum & O'Malley, 2003).

Another consequence of excessive loan debt is that it threatens to disrupt the delicate balance between private and public benefits. If policies continue to reflect an emphasis on the personal economic returns of higher education, society may find it difficult to expect recent college graduates to forgo economic prosperity to fill shortages in critical but low-wage careers such as teaching and social work. In short, the continued policy focus on individual benefits of higher education risks diminished returns both for individuals and for society (Institute for Higher Education Policy, 2004).

**Figure 11. Average Student Loan Amounts
Borrowed by Undergraduates, 2003**



SOURCE: *Measuring Up: The State-by-State Report Card for Higher Education*. Available at www.higheredinfo.org.

The Role of Demographic Changes

Arizona is experiencing a surge in the number of high school graduates. From 2001-02 to 2017-18, the number of public high school graduates is expected to grow from 46,774 to 74,126—a 58 percent increase. If the promise of the federal No Child Left Behind law is fulfilled, an increasing percentage of these new high school graduates will be college qualified. Moreover, most of this growth in college-qualified high school graduates will occur among underrepresented groups who are most in need of grant aid—minority, low-income, and first generation students. For example, Table 7 shows

Table 7. Arizona Public High School Graduates, 1992-93 through 2001-02 (Actual), 2002-2003 through 2017-2018 (Projected)

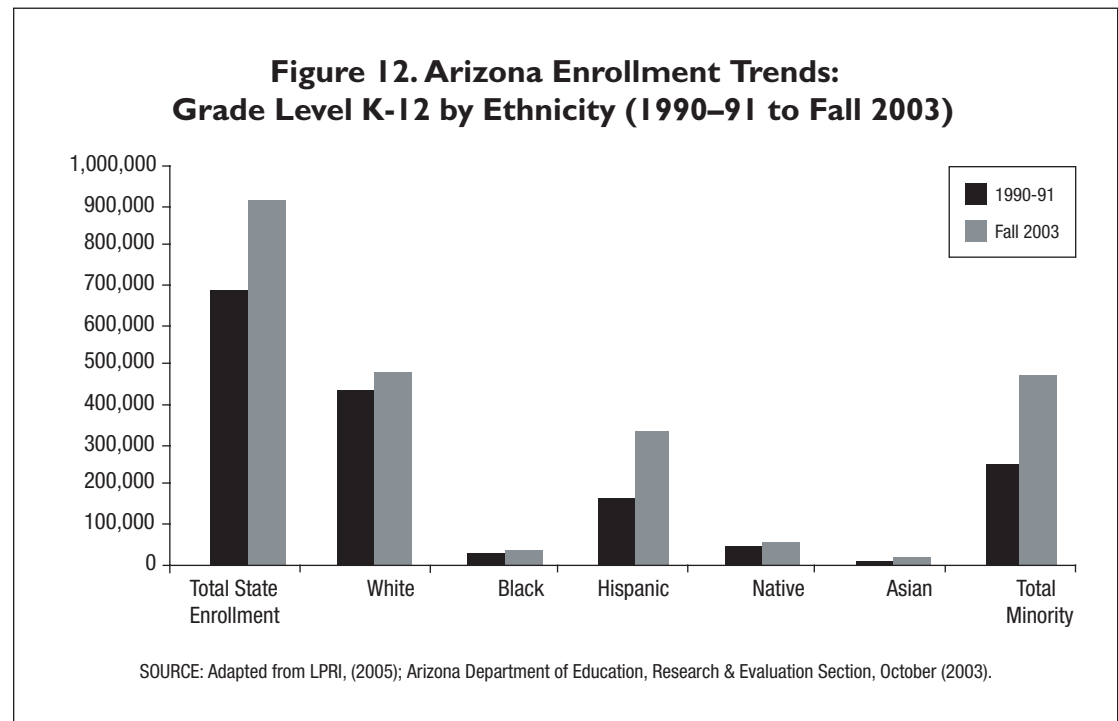
Public High School Graduates by Race/Ethnicity						
	Race/Ethnicity Total	American Indian/ Alaskan Native	Asian/Pacific Islander	Black, non- Hispanic	Hispanic	White, non- Hispanic
1992-93	31,097	1,918	715	1,161	7,038	20,265
1993-94	31,799	2,072	783	1,126	6,880	20,938
1994-95	32,438	2,096	801	1,204	7,386	20,951
1995-96	32,677	1,957	815	1,138	7,453	21,314
1996-97	34,082	2,139	835	1,255	7,873	21,980
1997-98	36,385	2,182	908	1,269	8,637	23,389
1998-99	42,726	2,370	1,040	1,670	10,079	27,567
1999-00	38,818	2,474	960	1,619	9,865	23,900
2000-01	46,006	2,529	1,236	1,931	11,780	28,530
2001-02	46,774	2,726	1,277	1,996	12,320	28,455
2002-03	48,286	2,885	1,398	2,147	13,164	28,692
2003-04	49,771	2,886	1,331	2,282	13,948	29,325
2004-05	49,245	2,887	1,420	2,311	14,413	28,215
2005-06	52,450	3,122	1,580	2,477	15,817	29,455
2006-07	54,019	3,197	1,737	2,621	16,910	29,554
2007-08	56,984	3,188	1,811	2,906	18,901	30,179
2008-09	58,341	3,298	1,933	2,945	19,900	30,266
2009-10	59,299	3,145	1,995	3,079	21,502	29,579
2010-11	59,316	3,170	2,209	3,154	22,047	28,737
2011-12	61,059	3,015	2,332	3,184	23,750	28,778
2012-13	60,547	2,864	2,533	3,034	23,604	28,513
2013-14	64,691	2,877	2,655	3,004	26,473	29,683
2014-15	65,516	2,654	2,775	3,240	27,101	29,745
2015-16	67,732	2,824	3,077	3,387	28,139	30,304
2016-17	70,434	2,828	3,258	3,580	30,286	30,482
2017-18	74,126	2,973	3,668	3,591	32,772	31,122
Percent projected change	58%	9%	187%	80%	166%	9%

NOTE: The definition of a high school graduate has been determined by the state. The sum of the graduates by race/ethnicity may not equal the total public graduates due to differences in the way the historical data are reported by the state and because the graduates for each race/ethnicity were projected separately from the total public projections.

SOURCE: Adapted from the Western Interstate Commission for Higher Education, 2003.

that the number of Hispanics graduating from public high schools is projected to increase by 166 percent, the number of Black public high school graduates will grow by 80 percent, while the number of whites will increase by only 9 percent (WICHE, 2003). Put another way, in 2001-02, Black, Hispanic, and Native American graduates made up 36 percent of all public high school graduates; in 2017-18, that percentage is projected to be 53 percent.²

Moreover, as illustrated by the Morrison Institute's *Five Shoes Waiting to Drop on Arizona's Future* (2003), this dramatic demographic shift is already occurring in Arizona.³ The enrollment patterns in Arizona's K-12 system drive home this point. According to the Arizona Department of Education, the number of minority students in Arizona has risen 79 percent from 1990 to 2003. The largest gain in minority students has come from the Hispanic population, with a net gain of 164,903 students (a percentage change of 95 percent) over this time period. In comparison, the number of white students has risen just 10 percent, with a net gain of 44,083 students (Figure 12).



² Including Asian/Pacific Islander students in this assessment, non-white students who graduate from public high schools is projected to grow from 39 percent in 2001-02 to 58 percent in 2017-18.

³ For a more detailed discussion of this issue, see the forthcoming *Bridging the Gaps: Addressing Postsecondary Access, Affordability, and Success for Arizona's Minority Students* commissioned by the Arizona Minority Education Policy Analysis Center and conducted by the Latina/o Policy Research Initiative (LPRI) at the University of Arizona.

Conclusion

This report has catalogued several public and private benefits, both social and economic, derived from educational attainment of the citizens of the state. These benefits accrue to both the individual and society. In general, as his or her education increases, the individual realizes a higher salary, higher savings, improved working conditions, professional mobility, better health, and increased life expectancy, among other benefits. Society benefits from a highly educated citizenry by increased tax revenues, greater productivity, increased consumption, decreased reliance on government support, decreased crime rate, increased quality of civic life, and improved ability to adapt to and use technology. Accumulated over several years, the evidence of benefits related to higher education is overwhelming. An obvious conclusion from these data is that it is in the state's interest to support and encourage all of its citizens to increase their educational level.

The level of state support can be measured by evaluating public policies governing student financial aid and support for the operating expenses of public institutions, both of which directly affect access. This report has shown that Arizona's commitment to student financial aid is relatively small compared to other states in the nation. In addition, the state's support for higher education institutions ranks in the lower quintile of all states. At the same time, tuition is growing to the point where it is increasingly difficult for students from families with modest means to attend college.

Investment in financial aid, particularly need-based aid, must be a priority for the state, given the limited support for aid that characterizes the current system. Arizona must make a clear commitment that those with the academic capacity but without the financial means will not be denied the opportunity to contribute to the state's future well-being. As this report shows, that capacity is inextricably linked to the ability to attain a college degree. Thus need-based financial assistance should be an important new policy anchor in the state's overall higher education funding strategy.

Three key actions should be taken to emphasize the high priority of need-based aid in Arizona. First, the state should develop a statewide clearinghouse of information on all forms of financial assistance, including federal, state, institutional, and private scholarship resources. The clearinghouse should be accessible in a form that provides the public with clear and timely information regarding each and every dollar available to pay for postsecondary education.

Second, a statewide financial literacy program should be created to assist families in planning for postsecondary expenses and to reinforce the concept of investment and return on postsecondary education to the public. Such a program should include

information on education costs, savings plan options, tax credit programs, student loans, and expectations for financial assistance programs.

Third, all sectors and parties who benefit from the investment in higher education—including business, philanthropy, government (both federal and state), tribes, and individual donors—must work together as partners in expanding the limited Arizona funds available to assist low-income students. Such a partnership will demonstrate a commitment on the part of the entire state to a new model of economic growth that is driven by a locally educated workforce.

At the same time, it is essential that the three major avenues for promoting student access—student financial aid, funding for public higher education institutions, and tuition policy—be considered in tandem. For instance, if support for student financial aid is increased, its impact on access will be negated if tuition at the state's colleges and universities rises commensurately. Likewise, if financial support for Arizona's higher education community is limited to the extent that tuition needs to rise, access is harmed despite increases in student financial aid. An important part of this calculation is that it is incumbent upon the state's public colleges and universities to operate as efficiently as possible to ensure that tuition can be set as low as possible. In sum, this tripartite focus on public policy will enable the state to promote access in a comprehensive and effective way. Such an investment in access will go a long way toward ensuring that the citizens and the state of Arizona together will reap the rich economic and social rewards of that investment.

References

- Arizona Board of Regents (2004). Tuition History. Available online at: http://www.abor.asu.edu/1_the_regents/reports_factbook/financial/6_tuitionhist.htm
- Arizona Commission for Postsecondary Education. 2004. *Arizona Commission for Postsecondary Education Leveraging Educational Assistance Partnership (LEAP) Ten Year Summary of LEAP Awards FY 1994-2004*. Phoenix, AZ.
- Arizona Commission for Postsecondary Education. 2004. *Arizona Commission for Postsecondary Education Private Postsecondary Education Student Financial Assistance (PFAP) Eight Year Summary of PFAP Awards FY 1996-2004*. Phoenix, AZ.
- Arizona Community College Association (December, 2003). *Report on Resident and Out-of State Tuition and Fees Charged by Arizona's Community College Districts FY 2004*. Phoenix, AZ.
- Baum, S., & M. O'Malley. 2003. *College on Credit: How Borrowers Perceive Their Education Debt*. Braintree, MA: Nellie Mae.
- Baum, S., & D. Saunders. 1998. *Life after Debt: Results of the National Student Loan Survey*. Braintree, MA: Nellie Mae.
- Carnevale, A. & R. Fry. 2001. *The Economic and Demographic Roots of Education and Training*. Washington, DC: The Manufacturers Institute, National Association of Manufacturers.
- College Board. 2004. *Trends in College Pricing 2004*. Washington, DC.
- College Board. 2004. *Trends in Student Aid 2004*. Washington, DC.
- Heller, D. 1997. "Student price response in higher education: An update to Leslie and Brinkman." *Journal of Higher Education*, 68(6), 624-659.
- Institute for Higher Education Policy. 1998. *Reaping the Benefits: Defining the Public and Private Value of Going to College*. Washington, DC.
- Institute for Higher Education Policy. 2004. *Investing in America's Future: Why Student Aid Pays Off for Society and Individuals*. Washington, DC.

- Joint Legislative Budget Committee. 2005. *Arizona Board of Regents FY 2006 JLBC Budget*. Accessed January 26, 2005. Available online at <http://www.azleg.state.az.us/jlbc/06recbk/unibor.pdf>.
- Latina/o Policy Research Initiative (LPRI). Forthcoming. *Bridging the Gaps: Addressing Postsecondary Access, Affordability, and Success for Arizona's Minority Students*. Phoenix, AZ: Arizona Minority Education Policy Analysis Center.
- Leslie, L., & Brinkman, P. 1987. Student price response in higher education: The student demand studies. *Journal of Higher Education*, 58(2), 181-204.
- Morrison Institute for Public Policy. 2003. *Arizona Policy Choices: Five Shoes Waiting to Drop on Arizona's Future*. Phoenix, AZ: Arizona State University.
- National Association of State Student Grant and Aid Programs (NASSGAP). 2004. *34th Annual Survey Report on State-Sponsored Student Financial Aid*. Springfield, IL.
- National Center for Public Policy and Higher Education. 2004. *Measuring Up 2004: The National Report Card on Higher Education*. San Jose.
- National Center for Public Policy and Higher Education. 2004. *Measuring Up 2004: The State Report Card on Higher Education: Arizona*. San Jose.
- National Information Center for Higher Education Policymaking and Analysis. 2004. Available at: www.higheredinfo.org
- Palmer, J. & E.R. Hines: Grapevine; "Appropriations of State Tax Funds for Operating Expenses of Higher Education" Available online at: <http://www.coe.ilstu.edu/grapevine/>
- State Board of Directors for Community Colleges of Arizona (November, 1996). *Annual Report to the Governor: 1995-1996*. Phoenix, AZ.
- State Board of Directors for Community Colleges of Arizona (November, 2001). *Annual Report to the Governor: FY 2000-2001*. Phoenix, AZ.
- U.S. Department of Labor, Bureau of Labor Statistics (BLS). 2004. *Monthly Labor Review*. "Occupational Employment Projections to 2012." February, 2004, Vol. 127, No. 2.
- Western Interstate Commission for Higher Education (WICHE). 2003. *Knocking at the College Door: Projections of High School Graduates by State, Income, and Race/Ethnicity, 1988 to 2018*. Boulder, CO: WICHE, December.

